EXHIBIT 5

MAO DECLARATION OPPOSITION TO GOOGLE'S MOTION TO EXCLUDE LASINSKI

DOCUMENT SOUGHT TO BE SEALED

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1
                  UNITED STATES DISTRICT COURT
 2
                 NORTHERN DISTRICT OF CALIFORNIA
 3
                      SAN FRANCISCO DIVISION
 4
      ANIBAL RODRIGUEZ, SAL CATALDO, )
 5
      JULIAN SANTIAGO, and SUSAN LYNN )
      HARVEY, individually and on
 6
      behalf of all others similarly
 7
      situated,
                                        )
                                        )
 8
                    Plaintiffs,
                                        )
 9
                                        ) Case No.
                       vs.
                                        )3:20-cv-04688-RS
10
      GOOGLE LLC,
                    Defendant.
11
12
13
14
15
                   VIDEO-RECORDED DEPOSITION OF
16
                  CHRISTOPHER R. KNITTEL, Ph.D.
17
                      Tuesday, July 11, 2023
18
                             Volume I
19
20
                   *** ATTORNEYS' EYES ONLY ***
21
22
      Reported by:
      CARLA SOARES
23
      CSR No. 5908
24
      Job No. 5996021
25
      Pages 1 - 259
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Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 3 of 14 ATTORNEYS EYES ONLY

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1
                  UNITED STATES DISTRICT COURT
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      HARVEY, individually and on
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                                        ) Case No.
                       VS.
                                        )3:20-cv-04688-RS
10
      GOOGLE LLC,
                    Defendant.
11
12
13
14
15
                 VIDEO-RECORDED DEPOSITION OF CHRISTOPHER
16
17
      R. KNITTEL, Ph.D., Volume I, taken on behalf of
18
      Plaintiffs, beginning at 9:33 a.m., and ending at
      7:22 p.m., on Tuesday, July 11, 2023, before CARLA
19
      SOARES, Certified Shorthand Reporter No. 5908.
20
21
22
23
2.4
25
                                                    Page 2
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Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 4 of 14 ATTORNEYS EYES ONLY

1	A Okay.	16:27:17
2	Q Here you describe how conversion	
3	measurement using a third-party platform works,	
4	correct?	
5	A Yes.	16:27:31
6	Q The first step is that the third-party	
7	platform's SDK sends conversion data to that third	
8	party, right?	
9	A Yes.	
10	Q The second step is that the third-party	16:27:46
11	platform passes that conversion data to the ad	
12	network, which in this case is Google, right?	
13	A I say "Google and Facebook." But for this	
14	case, yeah. The "case" being the legal case versus	
15	the case that we're talking about.	16:28:06
16	Q So even if an app uses a third-party	
17	platform for conversion tracking, Google still has	
18	to collect and save app activity data for	
19	attribution to work, correct?	
20	A Not necessarily sWAA-off data.	16:28:27
21	Q How could Google or any third party track	
22	sWAA-off conversions using a scratch that.	
23	Going to the second step described in	
24	paragraph 35, how could a third party track sWAA-off	
25	conversions if Google does not collect and save app	16:28:52
		Page 175

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 5 of 14 ATTORNEYS EYES ONLY

г		
1	activity data?	16:28:54
2	A sWAA-off app activity data, correct?	
3	Q Right.	
4	A They could model it.	
5	Q Okay. Let's set aside modeling and assume	16:29:03
6	it's deterministic tracking for the purposes of this	
7	question.	
8	Could a third party do conversion	
9	tracking, deterministic conversion tracking, if	
10	Google did not collect and save app activity data?	16:29:22
11	MR. SANTACANA: Calls for speculation,	
12	incomplete hypothetical.	
13	THE WITNESS: So you're asking me to set	
14	aside modeling. I'm happy to do that. What I'm	
15	less happy to do is speculate on how smart computer	16:29:39
16	scientists are.	
17	So, sure, as an economist, sitting here	
18	today, I probably couldn't write the code to do such	
19	a thing, but I'm less sure that some smart Stanford	
20	grad is completely or MIT grad is completely	16:30:02
21	unable to do so.	
22	BY MR. SILA:	
23	Q I definitely don't want you to speculate	
24	about what engineers who are much brighter than I	
25	can do.	16:30:12
		Page 176

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 6 of 14 ATTORNEYS EYES ONLY

1	My question is about the process of	16:30:16
2	conversion measurement using third-party platforms	
3	as described in paragraph 35. This process would	
4	not function if Google did not collect and save app	
5	activity data, correct?	16:30:30
6	A The process	
7	MR. SANTACANA: Sorry. Same objections.	
8	THE WITNESS: The process the	
9	economist's view of the process that I laid out in	
10	paragraph 35 wouldn't, but that's not to say that	16:30:42
11	the process to read the first sentence, "The	
12	process of conversion measurement using third-party	
13	platforms" itself could not exist. Those are two	
14	very different things.	
15	MR. SILA: Okay. I'm introducing a Google	16:31:13
16	Help page titled "About tracking app conversions	
17	with an App Attribution Partner," which you cite in	
18	paragraph 97 of your report, Footnote 213.	
19	(Exhibit 13 was marked for identification	
20	and is attached hereto.)	16:31:29
21	BY MR. SILA:	
22	Q Let me know when you have it. It's	
23	Exhibit 13.	
24	A Okay.	
25	Q As you understand it, can Google Analytics	16:31:59
		Page 177

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 7 of 14 ATTORNEYS EYES ONLY

1	track and attribute conversion events on both the	16:32:02
2	web and apps?	
3	MR. SANTACANA: Vague, compound.	
4	THE WITNESS: Can Google track conversions	
5	on the web and apps? Is that what you're asking?	16:32:19
6	BY MR. SILA:	
7	Q Yes.	
8	A I believe they can.	
9	Q Okay. This document in Exhibit 13 lists	
10	Google's third-party app attribution partners about	16:32:32
11	halfway down the page, right?	
12	A On the first page?	
13	Q Yep.	
14	A Okay. Yes.	
15	Q Do you know whether AppsFlyer can track	16:32:59
16	and attribute conversion events on the web?	
17	A I do not.	
18	Q Do you know whether Kochava can track and	
19	attribute conversion events on the web?	
20	A I do not.	16:33:13
21	Q Do you know whether any of these	
22	third-party attribution partners can track and	
23	attribute conversion events on the web?	
24	A I do not.	
25	Q Google Analytics can also track and	16:33:28
		Page 178

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 8 of 14 ATTORNEYS EYES ONLY

1	say you can create a third party yourself, this is	16:41:15
2	probably what it would look like.	
3	Q Is it your understanding that it would be	
4	realistic that in response to a court order	
5	requiring Google to stop collecting, saving, and	16:41:35
6	using sWAA-off data, Alphabet would actually just	
7	incorporate its conversion-tracking operation under	
8	a different name memorialized on a new piece of	
9	paper, and keep going as is?	
10	A That's not my understanding at all.	16:41:52
11	That to have that understanding requires a legal	
12	opinion, and I'm not willing to offer a legal	
13	opinion.	
14	Q Okay. You're not offering any opinion	
15	about how likely the but-for scenario described in	16:42:04
16	paragraph 84 would be to actually unfold, correct?	
17	MR. SANTACANA: Misstates testimony.	
18	THE WITNESS: Again, I would say that in	
19	the event the Court says that they could do this,	
20	then I would say it's probably likely. But it would	16:42:23
21	require the court to allow them to do so.	
22	BY MR. SILA:	
23	Q All right. Do you understand that	
24	plaintiffs allege that if Google were to abide by	
25	users' permission, Google would be unable to serve	16:42:44
		Page 184

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 9 of 14 ATTORNEYS EYES ONLY

1	ads to sWAA-off users in Scenario 2 of	16:42:49
2	Mr. Lasinski's model?	
3	A I don't think the plaintiffs alleged	
4	Scenario 2. I don't think what the plaintiffs	
5	alleged led to Scenario 2.	16:43:06
6	Q That's a bad question. Correct. Let me	
7	try it again.	
8	Do you understand that in Mr. Lasinski's	
9	Scenario 2, Google would be unable to serve and	
10	monetize the ads it currently serves sWAA-off users?	16:43:20
11	A I understand that that is Mr. Lasinski's	
12	assumption, yes.	
13	Q And in that scenario, Google would not	
14	have made the revenues attributable to ads served to	
15	sWAA-off users, correct?	16:43:47
16	A So that's where I think Mr. Lasinski and I	
17	disagree.	
18	Q Is it your opinion that Google would have	
19	made money from sWAA-off ads even though Google	
20	couldn't have served and monetized ads served to	16:44:03
21	sWAA-off users?	
22	A It's my opinion that I could imagine	
23	Google thinking of a way to monetize them in some	
24	monetize that space in some way.	
25	I, as an economist, haven't or could	16:44:26
		Page 185

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 10 of 14 ATTORNEYS EYES ONLY

1	not think of that way, but Google is full of very	16:44:31
2	smart people, and I would imagine they would think,	
3	or could potentially think of a way to monetize that	
4	space in some way.	
5	MR. SILA: Let's go off the record.	16:44:45
6	THE VIDEO OPERATOR: This marks the end of	
7	Media No. 5. Off the record. The time is 4:44.	
8	(Recess, 4:44 p.m 5:05 p.m.)	
9	THE VIDEO OPERATOR: This marks the	
10	beginning of Media No. 6 in the deposition of	17:05:33
11	Dr. Christopher Knittel. We're back on the record.	
12	The time is 5:05.	
13	BY MR. SILA:	
14	Q Dr. Knittel, are you aware that Google has	
15	represented in this litigation that Google does not	17:05:48
16	personalize ads using sWAA-off data collected by	
17	Google Analytics for Firebase?	
18	A I believe that's that's what they've	
19	represented, yes.	
20	Q Would you agree with me that all else	17:06:05
21	equal, the more personalized an ad is, the more	
22	valuable the ad is?	
23	A If you're doing it right, I would agree	
24	with that.	
25	Q So in determining the revenue that Google	17:06:21
		Page 186

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 11 of 14 ATTORNEYS EYES ONLY

1	derives from serving ads to sWAA-off users, isn't it	17:06:24
2	appropriate to consider the fact that sWAA-off ads	
3	are less personalized than sWAA-on ads?	
4	A I believe you're asking, if one was tasked	
5	with coming up with the value of sending ads to	17:06:52
6	sWAA-off customers, that at least on average they	
7	would be less valuable because they're less	
8	personalized?	
9	Q That's correct.	
10	A That would be my hunch. I haven't given	17:07:07
11	much thought on that question, but if you ask me for	
12	an answer right now, that seems like a reasonable	
13	one.	
14	Q Are you familiar with a setting called	
15	"GAIA Ads Personalization," which is abbreviated	17:07:21
16	GAP?	
17	A I am.	
18	Q Whereas the sWAA setting reduces that	
19	personalization, the GAP setting turns off ad	
20	personalization entirely, correct?	17:07:38
21	A That's my understanding, but I haven't	
22	reviewed what it does in a while.	
25	A Yes.	17:07:54
		Page 187

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 12 of 14 ATTORNEYS EYES ONLY

1	That understanding is based on counsel's	18:06:14
2	representations?	
3	A Certainly at least in part, yeah. I might	
4	have read that elsewhere, but that's part of the	
5	conversations we've had.	18:06:29
6	Q In paragraph 144 of your report, you	
7	write, quote, "Lastly, as I discuss above, users	
8	receive benefits or utility from a better	
9	ad-supported app experience as a result of Google's	
10	activity."	18:06:53
11	Do you see that?	
12	A Yes.	
13	Q This might just be my problem. Do you	
14	know where in your report user benefits are	
15	"discussed above"?	18:07:04
16	A Oh, I'd have to go through I'd have to	
17	go through the report again.	
18	Q Okay. It may be not worth the time, but	
19	if you can find it.	
20	Do you mean that they in paragraph 144	18:07:26
21	or in your report generally, that users receive	
22	utility from Google's general practice of collecting	
23	app activity data?	
24	A So what I'm saying there is that they	
25	certainly if you read the next sentence, it says,	18:07:50
		Page 217

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 13 of 14 ATTORNEYS EYES ONLY

1	"These benefits are likely to vary across	18:07:53
2	individuals," so they certainly can.	
3	Q What utility do users receive?	
4	A From advertising or from the apps that	
5	they're downloading.	18:08:11
6	Q Is it your understanding that advertising	
7	is not possible if Google does not collect app	
8	activity data?	
9	A I think we had this conversation before	
10	about how smart Google engineers are. I would	18:08:33
11	hesitate to say that it's not possible.	
12	Q Okay. So are you not sure whether users	
13	receive advertising-related utility from Google's	
14	collection of app activity data?	
15	MR. SANTACANA: Vague.	18:08:53
16	THE WITNESS: No, I'm sure that so the	
17	use of web activity data and I guess we're now	
18	talking about sWAA on, sWAA off, just in general.	
19	That activity data, as one example, allows	
20	Google to, potentially at least, design better or	18:09:21
21	better ad placement, do better things, in the ad	
22	space. And consumers certainly, on average, benefit	
23	from that. I would say that the benefits vary	
24	considerably across users. But on average,	
25	consumers benefit from this web activity, or this	18:09:50
		Page 218

Case 3:20-cv-04688-RS Document 361-49 Filed 01/25/24 Page 14 of 14 ATTORNEYS EYES ONLY

1	advertisement activity.	18:09:54
2	BY MR. SILA:	
3	Q You mentioned also that users receive	
4	utility from the apps that they download.	
5	Is it your opinion that if Google did not	18:10:06
6	collect app activity data, users would not receive	
7	utility from apps they download?	
8	A I guess I would be inclined to believe	
9	that they may end up downloading fewer apps. So	
10	again, less utility because they're interacting with	18:10:29
11	fewer apps.	
12	Q What's the basis of your opinion that if	
13	Google did not collect sWAA-off scratch that.	
14	What's the basis of your opinion that if	
15	Google did not collect app activity data, users	18:10:43
16	would download fewer apps?	
17	A So I could imagine that the web activity	
18	data creates a virtual cycle, so to speak, where	
19	that allows Google to better display ads, better	
20	generate ads, and so on, that then, the fact that	18:11:11
21	Google can do that, a potential app developer then	
22	knows that Google can do that.	
23	So there's some apps that get developed	
24	that would not have gotten developed in this but-for	
25	world where web activity data aren't collected, let	18:11:28
		Page 219